

## A Preliminary Acoustic Study of the Occitan Vowel System

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The present study aims at investigating the vowels of Occitan from a phonetic and phonological point of view. Occitan is a Romance language spoken in the south of France, covering about one third of the state's area. It has a typologically very uncommon vowel system, judging from the surveys in Ladefoged & Maddieson 1996 and Schwartz et al. 1997a. It evolved out of the Latin five-vowel system into a seven-vowel system comprising /ɪ ε E α ω υ ψ/, which is highly asymmetrical. The only phonetic investigation of Occitan so far was published in 1974 (Maurand 1974). His data will serve for comparison.

The main part of this study is an acoustic description of the Occitan vowel system as spoken by a 55-year old male subject from the Ubaia Valley in the Provença region. The speaker was recorded in the Phonetics Laboratory at the University of Montpellier 3 – Pau Valèri. He read approximately 27 words x 5 repetitions at a self-chosen rate inserted in a carrier sentence. F1, F2, F3, F4 and the duration of the vowels were obtained for posterior analysis. Additionally, the Hz values of the formants were converted into Bark units and the perceptual second formant was calculated for each vowel from F2, F3 and F4. The following factors are controlled for: vowel, word-type (monosyllables vs bisyllables), stress (stressed vs unstressed) and the position of the unstressed vowel in relation to the stressed vowel (poststressed vs prestressed).

The distribution of vowels in the chart as well as the effects of the different factors controlled for will be discussed, paying special attention to the highly controversial /ψ/-sound, the overlapping in the front vowel area as well as the diphthongisation of the mid-low back vowel. We will also look at how these findings can explain some of the more common Occitan allophonic alternations, such as the stressed [ω] – unstressed [υ] alternation that parallels functionally the alternation of stressed [E] - unstressed [ε], and explore the articulatory/perceptual triggers that are responsible for the development of these peculiar characteristics of the Occitan vowel system.

### References:

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Schwartz, Jean-Luc / Boë, Louis-Jean / Vallée, Nathalie / Abry, Christian (1997a), Major trends in vowel system inventories. *Journal of Phonetics* 25 ; 233-253